



Coal Mining Risk Assessment

For development at: Pontrhydyfen Junior School, School Street,
Pontrhydyfen, Neath Port Talbot, SA12 9SZ

For proposal: To construct 2 No. detached residential dwellings,
2 No. chalets, garage & workshop and a pool house

Assessment Summary

Assessment Result	LOW RISK
Recommended Further Work	ADVISORY COAL GAS RISK ASSESSMENT

The Coal Authority works to resolve the impacts of mining by growing its expertise, innovation, organisational capability and efficiency.

It manages the effects of past coal mining, including subsidence damage claims which are not the responsibility of licensed coal mine operators and is an executive non-departmental public body, sponsored by the Department of Business, Energy and Industrial Strategy. This report is valid for 90 days.

Limit of liability

This report is provided for the applicant and is in respect of the property identified on its face. Any conclusions or recommendations made are those based on information obtained for the report and our current knowledge and practices. The information and data set out in this report is based on information provided by or obtained from third parties which is held by the Coal Authority. Any limitations of the data are identified within the report. The Coal Authority does not accept liability for the accuracy of third party data. Should new data or information become available these results, conclusions and recommendations may require amending. The Authority is not and cannot be liable for any harm, loss or damage of whatever nature, including consequential loss, occasioned to any third party by the inaccuracy of the information set out in this report and any person seeking to rely upon it should if necessary undertake their own investigations and professional advice. The report should only be used in the stated context.

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Any advice provided in this report does not prejudice our position as a statutory consultee.

Version	Compiled	Checked	Date
1.1	PB	HB	16 th March 2020

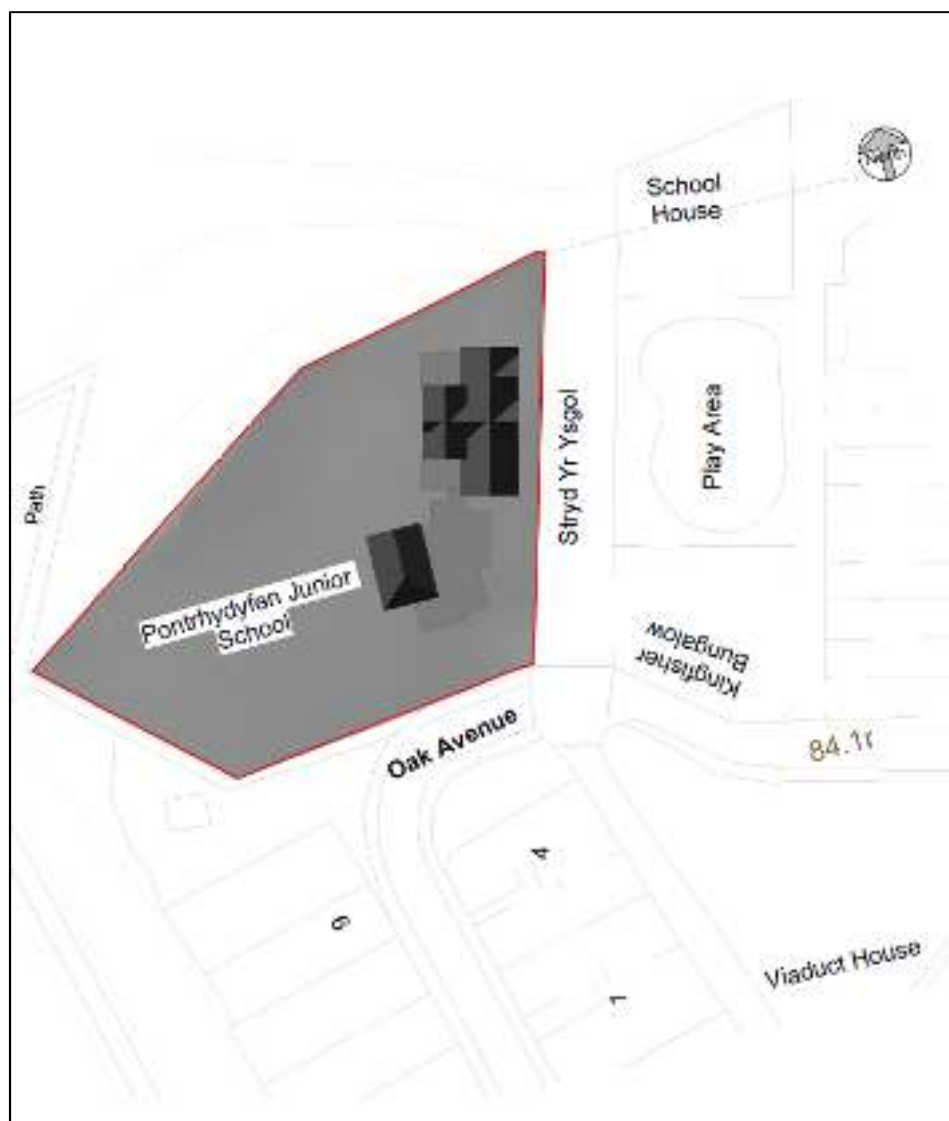
Section 1 – Description of site and proposed development

a) Site location and Description

The Coal Authority has been commissioned to prepare a Coal Mining Risk Assessment Report for a proposed development at the former Pontrhydyfen Junior School, School Street, Pontrhydyfen, Neath Port Talbot, SA12 9SZ (see Figure 1), in order to provide the Local Planning Authority with information on coal mining and an assessment of its impact on land stability.

The approximate site centre co-ordinates are E279384, N194046. The proposed development area requires access via School Street. The site has an approximate elevation of 78m AOD.

Figure 1: Site location plan



b) Description and layout of proposed development

The Coal Authority understands that the developer plans to construct 2 No. detached residential dwellings, 2 No. chalets, garage & workshop and a pool house (see Appendix A).

c) Scope of coal mining risk assessment

The purpose of this Coal Mining Risk Assessment Report is to:

- Present a desk-based review of all available information on the coal mining issues which are relevant to the application site.
- Use that information to identify and assess the risks to the proposed development from coal mining legacy, including the cumulative impact of issues.
- Set out appropriate mitigation measures to address the coal mining legacy issues affecting the site, including any necessary remedial works and/or demonstrate how coal mining issues have influenced the proposed development.
- Demonstrate to the Local Planning Authority that the application site is, or can be made, safe and stable to meet the requirements of national planning policy with regard to development on unstable land.

Any works that intersect coal mine workings, mine entries or coal seams may have implications for mine gas, spontaneous combustion and surface collapse. Coal Authority permission is required prior to any such works taking place. Further detailed advice can be provided upon request.

The Coal Authority's adopted policies regarding building over or close to mine entries and managing gas risks can be viewed at:

www.gov.uk/government/publications/building-on-or-within-the-influencing-distance-of-mine-entries

www.gov.uk/government/publications/guidance-on-managing-the-risk-of-hazardous-gases

Section 2 – Sources of information used to inform this report

Source reviewed	Yes	No	Remarks
Coal mining report	X		Consultants Coal Mining Report (Appendix B)
Other mining records		X	
Geological plans	X		OS geological sheet SS79SE (1970 edition)
BGS Boreholes		X	
Other	X		BGS GeoIndex

The above information sources have been used to provide an assessment of the potential mining risk within the remainder of the report.

Section 3 – Identification and assessment of site specific coal mining related risks

The Coal Authority's search of its detailed coal mining information identifies the following site specific coal mining legacy risks to the site.

Coal mining issue	Reported		Risk assessment	
	Yes	No	Rating	Comment
a) Underground coal mining (recorded at shallow depths)		X	Medium risk	None recorded
b) Underground coal mining (probable at shallow depths)	X		Medium risk	None considered to influence development
c) Mine entries (shafts and adits)		X	Low risk	One recorded 96m from site however not considered to influence development
d) Coal mining geology (faults and fissures)		X	Low risk	None recorded
e) Record of past mine gas emissions or potential		X	Medium risk	All mine workings pose a potential gas risk which should be considered in any future investigations and development
f) Recorded coal mining surface hazard		X	Low risk	None recorded
g) Surface mining (opencast workings)		X	Low risk	None recorded

A desk based study of the coal mining information has been used to risk assess the coal mining features above. A summary of the risk posed by these features is summarised after thorough analysis of the information sources. Comment on each specific coal mining issue follows below:

a) Underground Coal Mining (recorded at shallow depths)

Coal mining at depths shallower than 30m beneath ground level can typically pose challenges to ground stability at the surface. The magnitude of this effect depends upon

the exact depth of any workings, the thickness of competent rock cover and the extraction thickness of any coal mine workings.

The Coal Authority Consultants Coal Mining Report in Appendix B shows that the development site is not in an area of recorded shallow coal mine workings. The Consultants Coal Mining Report records workings in one seam, the Tormyndd seam, at 250m depth, worked to the southwest of the development site and last worked in 1920. Due to the depth of these recorded workings it is considered that they will pose no risk to the proposed development and consequently the risk from underground mining (recorded at shallow depths) is low.

b) Underground coal mining (probable at shallow depths)

Areas of probable shallow coal mine workings are identified as part of the Development High Risk Area for which no recorded plan exists, but where it is likely that workable coal at shallow depths has been mined before records were kept. The data has been estimated from available mining records by qualified mining surveyors. Since 1872 there has been a law that requires all coal mine operators to deposit working plans of the mine with the government following the cessation of operations. Prior to this date the plans were often destroyed or kept in private ownership.

Where the extraction of coal has occurred there is the potential for voids to remain long after mining has ceased. The depth of workings generally dictates the length of time that significant voids may remain, but other factors including the size of mine roof supports and the competency of overlying strata can influence the time for natural consolidation to occur. Waste material produced during mining was sometimes used to backfill abandoned sections of mine workings, therefore reducing the volume of open cavities or voids that remain. The method of backfilling workings is typically not recorded and cannot be relied upon as a satisfactory form of remediation.

The Coal Authority Consultants Coal Mining Report in Appendix B shows that the development site is not in an area of probable shallow coal mine workings however does record the No.2 Rhondda Rider seam to outcrop 45.9m southwest of the site with the seam being recorded to be of a workable thickness. OS geological sheet SS79SE (1970 edition) records the No.2 Rhondda Rider seam to be locally known as the Field coal with the generalised vertical section (GVS) on the sheet recording the seam to be seam to be thin in nature. Further outcrops are recorded south of the Field outcrop in the Wernddu, Wernpistyll Rider and Wernpistyll coals with the seams recorded as being 3ft (0.91m), 2ft 3in (0.69m) and 2ft-2ft 6in (0.61-0.76m) in thickness respectively. The strata in the area is recorded to dip at between 20-38° north in the vicinity of the site. Using the shallowest recorded dip, the distance between the No.2 Rhondda Rider seam outcrop and the development site boundary (45.9m) and the difference in elevation between the site and the outcrop position (3m), the seam could be calculated as being 19.7m below rockhead at the site. Whilst it could be feasible that roadways within this seam, if worked, could extend up to approximately 1.5m, it is still considered likely that sufficient competent cover will exist above any roadways within this seam. It is therefore considered that

sufficient cover will also exist above the deeper recorded seams beneath the site. Consequently, the risk to this development site from underground mining (probable at shallow depths) is considered to be low.

c) Mine entries (shafts and adits)

The Coal Authority Consultants Coal Mining Report in Appendix B shows one mine entry is recorded within 100m of the development site. Mine entry 279193-122 is recorded to be approximately 97m southwest of the development site boundary. Due to the distance between this entry and the development site boundary it is considered that the mine entry will not influence the development site boundary and consequently the risk to this development from mine entries (shafts and adits) is considered to be low.

The development site sits within a historical mining area and therefore there is a residual risk of unrecorded mine entries to be present on site. All site operatives should be made aware of this potential risk and a watching brief should be maintained during site works.

d) Coal mining geology (Faults and fissures)

The development site sits upon the Rhondda Member sandstone formation. Little information is available in the immediate site vicinity detailing the nature of surficial deposits with the closest reference being on OS geological sheet SS79SE (1970 edition) 260m north of the site recorded unsorted stony drift 22ft (6.71m) in thickness.

No faults, fissures or break lines are known to affect the development site.

e) Record of past mine gas emissions or potential

There are no recorded past gas emissions recorded in the surrounding area, however, coal seams and coal mine workings pose a potential gas risk which should be considered in any future investigations and development. At development sites with shallow coal workings, probable shallow coal mine workings, or pathway features such as mine entries and geological disturbances on or nearby the site, the Coal Authority recommends that a more detailed gas risk assessment to be undertaken in accordance with relevant guidance.

No seam mentioned in this report is recorded as being prone to spontaneous combustion.

f) Recorded coal mining surface hazard

None recorded.

g) Surface mining (opencast workings)

None recorded.

Section 4 – Proposed mitigation strategy

a) Site investigation and/or remediation

After a thorough desk based review of the available evidence, it is probable that the development site has not been subject to the influence of coal mining legacy features. Accordingly, an intrusive site investigation will not be required.

Due to the difficulties in identifying coal related gas hazards, it may be prudent to consider completing a gas risk assessment for the development site. This may recommend basic gas protection measures within the foundation design, which are resistant to permanent gases (carbon dioxide, methane, carbon monoxide) and comparable to that suggested in BR211, as commonly used to protect against radon in residential properties.

Although it is unlikely that coal will be encountered at the site, should coal seams be found, at or near the depth of the development's foundations, they may pose a risk of spontaneous combustion if exposed to air or may act as pathways for ground gases to reach the development. A competent engineer should be consulted if coal is encountered in, or adjacent to, the foundations of the proposed development.

Concrete, cements and renders may be susceptible to attack from elevated levels of sulfates in the ground. The Building Research Establishment reports that most cases of sulfate attack occur in and adjacent to coal field areas and related industrial centres. It would be prudent for the issue of sulfate attack to be considered during the foundation design to ensure they comply with the Building Regulations 2010.

You may also wish to refer to the Construction Industry Research and Information Association (CIRIA) publication Special Publication 32 "Construction over Abandoned Mine Workings".

b) Coal Authority permit

Any intrusive activities, including initial site investigation boreholes and any subsequent treatment of coal mine workings/coal mine entries for ground stability purposes require the prior written permission of the Coal Authority. Application forms for Coal Authority permission and further guidance on this matter can be obtained from the Coal Authority's website at:

www.gov.uk/get-a-permit-to-deal-with-a-coal-mine-on-your-property

Follow on services can be requested using the details in the contacts section.

Section 5 – Conclusions

This report has identified that the proposed development site is not known to have been subject to past coal mining activity. The risk to the site from legacy mining features is low.

The Coal Authority advises the developer undertake a detailed Gas Risk Assessment where proposed development occurs over shallow coal reserves as is the case here.

Section 6 – Contacts

Planning and Local Authority Liaison Service

Tel: 01623 637 119

Email: planningconsultation@coal.gov.uk

Website: www.gov.uk/planning-applications-coal-mining-risk-assessments

Surface Hazards Emergency Service

Tel: 01623 646 333 (open 24 hours a day, 7 days a week)

24-hour number for reporting public safety hazards and incidents associated with coal mining

Mining Reports Service

To purchase site specific coal mining information go to our website;

www.groundstability.com

Licensing and Permitting Service

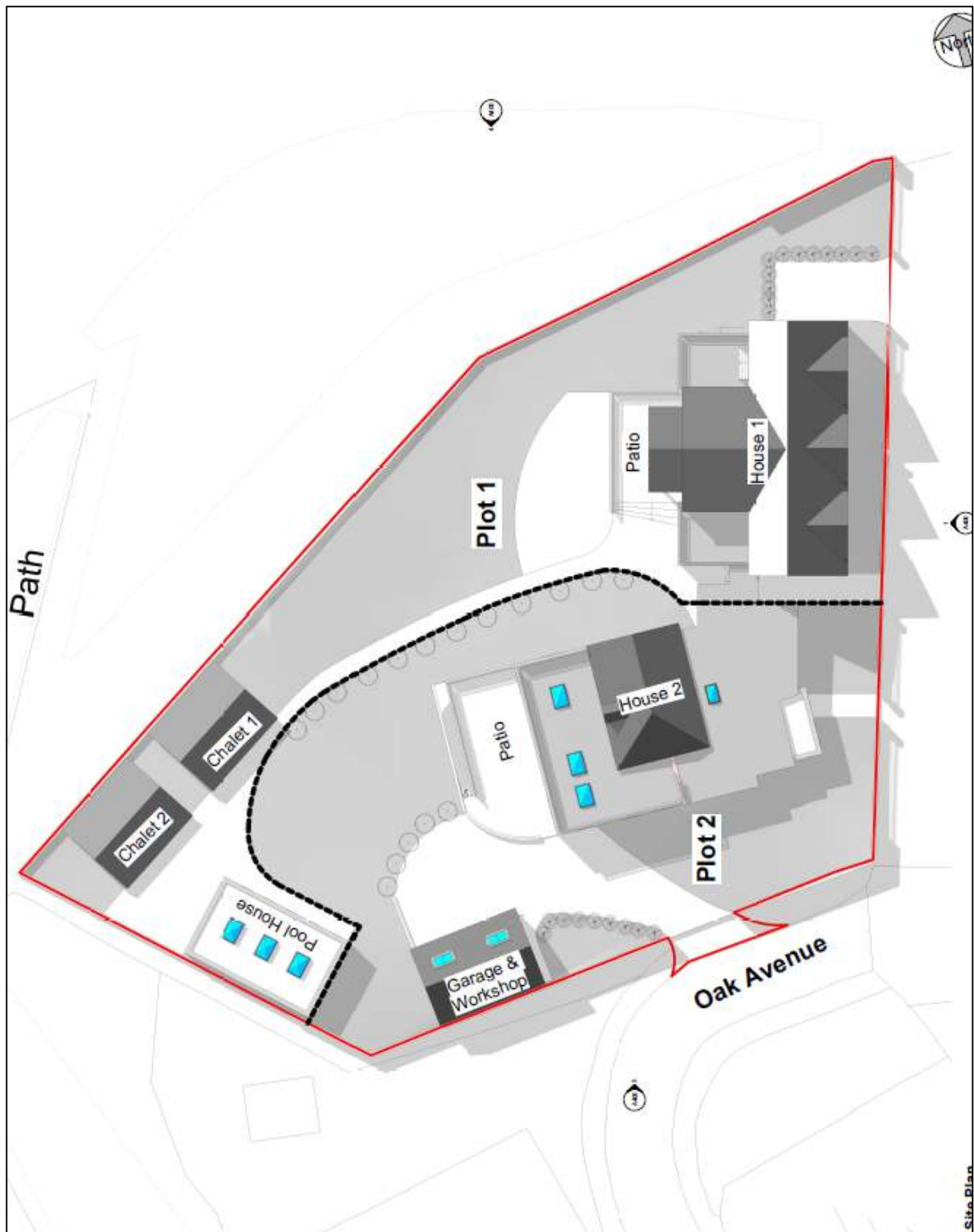
Email: permissions@coal.gov.uk

Tel: 01623 637 320

For permission to enter or disturb coal mine entries and coal seams.

Section 7 – Appendices

Appendix A – Plan showing proposed development layout



Appendix B – Non-Residential Coal Mining Consultants Report

For Internal
Use Only

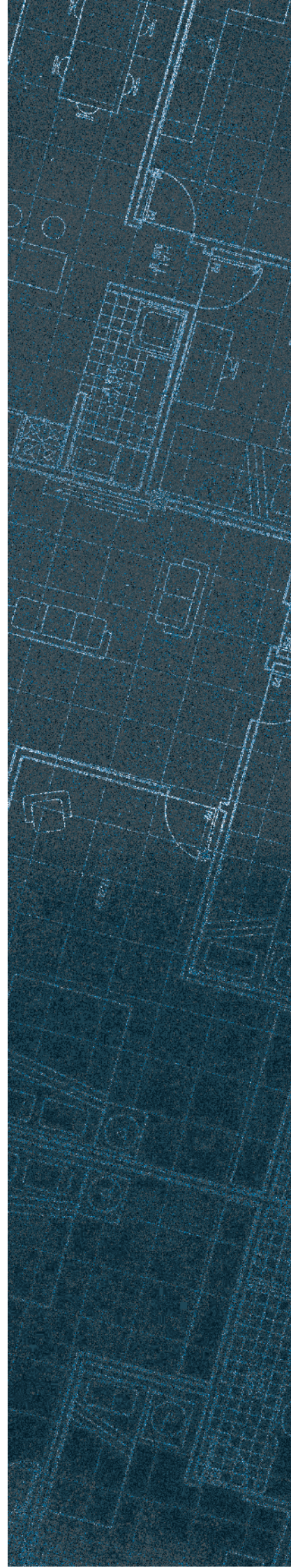
Consultants

Coal Mining Report

Cadbury Heath Hall
School Road
Cadbury Heath
South Gloucestershire
BS30 8EN

Date of enquiry:	27 February 2020
Date enquiry received:	27 February 2020
Issue date:	27 February 2020

Our reference:	71005590700001
Your reference:	



Consultants

Coal Mining Report

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

CMRA INTERNAL REPORT

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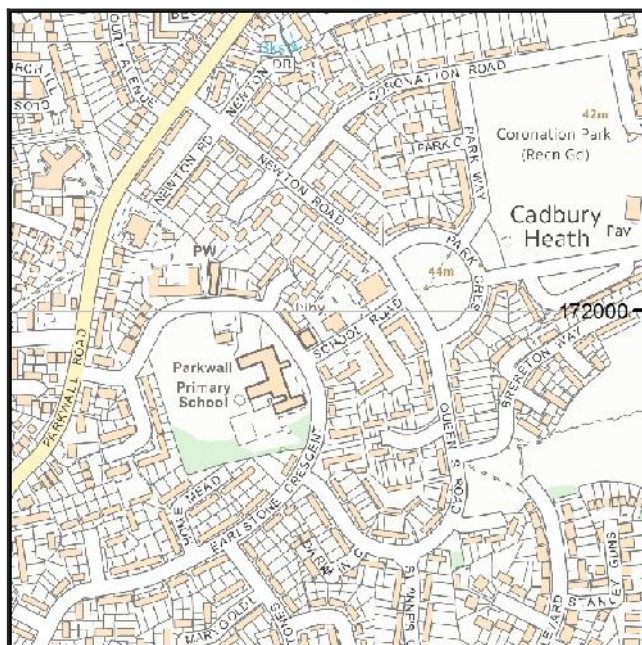
www.groundstability.com

 @coalauthority

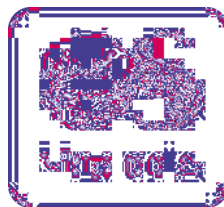
 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



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Section 1 – Mining activity and geology

Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	BUFF	Coal	3BBM	36	North	16.3	South	200	1900
unnamed	BUFF	Coal	37NP	38	Beneath Property	10.0	South	200	1900
unnamed	PARROT	Coal	3VEI	62	North	16.2	South	60	1900
unnamed	PARROT	Coal	37NH	66	Beneath Property	21.3	South	60	1900
unnamed	LLANNON	Coal	3C84	112	West	27.7	East	50	1900
unnamed	LLANNON	Coal	3VEN	142	North	20.9	South	50	1873
unnamed	STRAP LITTLE	Coal	3BUG	218	North	24.2	South	100	1902

Probable unrecorded shallow workings

Yes.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

None recorded within 100 metres of the enquiry boundary.

Abandoned mine plan catalogue numbers

The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

2967	4617	17639
PO0		

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
BUFF	Coal	Yes	38.9	North	81

Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

Withdrawal of support notices

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Section 4 – Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

Development advice

The site is within an area of historical coal mining activity. Should you require advice and/or support on understanding the mining legacy, its risks to your development or what next steps you need to take, please contact us.

For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.

Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk**.

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Opencast mines

Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips

Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations

Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites

Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence

Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission.

Mine water treatment schemes

Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining

Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing

Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders

Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices

Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

Withdrawal of support notices

Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

Payment to owners of former copyhold land

Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

The map highlights any specific surface or subsurface features within or near to the boundary of the site.

